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SUMMARY

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GENERAL DATA AND PROBLEMS OF THE CEMENT INDUSTRY IN WEST AND EQUATORIAL AFRICA

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Economique et Social

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GENERAL DATA AND PROBLEMS OF THE CEMENT INDUSTRY IN WEST AND EQUATORIAL AFRICA.

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The industrialisation of less developed countries normally benefits from the experience of the more developed countries in the choice of processes to be applied. However, the particular conditions of the new countries (especially as far as the extent of the market is concerned) occasionally require different solutions, calling for a technique that has been abandoned or neglected by the industrialised countries. These earlier techniques can moreover improve by benefiting from the latest advances in science. This applies to the steel industry, cellulose manufacture and the production of building materials.

The idea of cement plants in West and Equatorial Africa, which is the object of this memorandum, is another example.

The production of cement in the developed countries has almost exclusively been carried out in rotary kilns. These can be highly mechanised and they fit perfectly into very large enterprices of high productivity. Single units producing up to 2500 tons per day are thus feasible with a reduced labour force. On the other hand investment costs are high and depreciation and finance charges have a marked effect on the manufacturing cost. Even at a production rate of less than 200 tons per day the effect of these items is too pronounced for competitive prices to be achieved unless conditions are exceptional.

With some rare exceptions (Pakistan, India, Nigeria, Senegal, etc.) the majority of the developing countries are characterised by a cement consumption that is too low or too scattered and by the necessity to transport the cement

produced over long distances in order to reach an adequate market. Even if advantage is taken of commercial agreements between neighbouring countries, this still constitutes a serious burden for a base product which, on the contrary, one would like to see at a lower price.

Utilisation of modern shaft kilns, however, of which several types now exist, permits production at acceptable manufacturing costs with an output of 70-100 tons per day. Under normal production conditions, with local raw materials and even with the plant and its market far from the nearest port, there is even a chance of appreciably reducing the average price per ton delivered to the customer.

It is important, though, to note that the use of the shaft kiln in its present state requires coal as the fuel used and in this respect it is not as flexible as the rotary kiln. On the other hand it is much more so as far as its operation is concerned, because it is very easily worked at reduced capacity and shut down. Consequently it can be operated in one or two shifts and shut down on Sundays.

The paper also describes a new method for the evaluation of likely cement requirements in a given country and for thus quickly estimating short-term demand. The basis of this method is a comparison of the per capita consumption of cement in countries in different stages of development, the stages being determined by reference to the per capita income level.

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